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MEMORANDUM TO THE FILE

3 February 1958

FROM: [REDACTED]

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SUBJECT: (Report of Trip to [REDACTED]
Concerning Project E-5106 (Safety Switches))

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1. On 3 February 1958, [REDACTED], OC-O&T and [REDACTED], OC-E, visited the [REDACTED] to inspect the work to date on the subject project.

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2. We were met by [REDACTED] who demonstrated a prototype modification installed in a 231-D transmitter located at their plant. Briefly described, the modification consists of plunger-type disc-switches similar to the type used on AN/FRT-5 transmitters, mounted on each of the six doors and are mechanically actuated when the door is open, plus eight warning lights and interrupter for some and the connecting wiring harness to all these items. The purpose of this modification is to ground any exposed voltage over 300 volts when any door is opened. Also, provision was to be made not to disrupt the existing feature of allowing the RF Bay Door to be opened with exciter voltage applied in order to align the exciter stage. Also, when this situation is present, the warning lights should flash to inform the operator of such and existence of voltage. The prototype was demonstrated and it performed as planned. One addition to increase the safety of the operating personnel was the addition of a cover over the primary lugs on the main power transformer which carries 220 VAC, the reason being that these lugs are very accessible when the rear middle door is opened. This cover will be incorporated on all subsequent modification kits.

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3. Each switch has five contacts which ground the voltage present before and after the rectifier section of the high voltage power supply. Only the rectified DC from the low voltage (600v) supply is grounded. The same theory and switches will be used in the 16-F transmitters. Since the HT-4 transmitter, even though OC has many, is considered limited, standard no attempt will be made at this time to incorporate any safety devices on it.

4. Whenever the existing interlock is "cheated" and any doors are opened when in the TUNE position, and also when the ADJUST position is used when aligning the exciter, warning lights in all bays flash. In case one lamp burns out without the operator knowing it, two lamps per bay are used.

5. It is estimated that it will take approximately 40 man hours to install this modification. However, at any time during installation, work on the installation can be stopped and the transmitter used. Also, this installation will in no way affect the operation of the transmitter and will not detract from or obviate the existing interlock safety, but rather will supplement it.

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6. [] estimated that it will be three weeks before an engineering model will be made up. It is planned, subject to approval from WACS, to install this model in a 231-D transmitter [] to check on the accuracy of the instruction manual and installation ease, plus operational reliability after being installed. The prototype cable and hardware is presently being made for installation in the 16-F transmitter and is destined for the same as above.

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7. If this first model proves satisfactory to all concerned, it is planned to request bids from contractors, including our own facilities, for a sufficient quantity to equip all of our 231-D and 16-F transmitters.

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